

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.

CLAIMS

We claim:

1. A method for making a thin film transistor containing a gate dielectric structure, comprising:
providing a substrate for the gate dielectric structure; and
providing an oxide layer of the gate oxide structure on the substrate by an in-situ steam generation process.

2. The method of claim 1, wherein the substrate comprises a gate conductor on a glass substrate.

3. The method of claim 1, wherein the thin film transistor is a floating gate transistor or a SONOS transistor.

4. The method of claim 1, wherein the in-situ steam generation process flows hydrogen and oxygen over the substrate.

5. The method of claim 1, wherein the in-situ steam generation process is performed at a temperature ranging from about 600 to about 900 degrees Celsius.

6. The method of claim 1, wherein the in-situ steam generation process is performed at a pressure ranging from about 100 millitorr to about 760 torr.

7. The method of claim 1, wherein the in-situ steam generation process is performed for a time sufficient to deposit an oxide thickness of about 10 to about 200 angstroms.

8. The method of claim 1, further including annealing the oxide layer in a nitric oxide atmosphere.

9. A method for making a semiconductor device, comprising:

providing a substrate;

providing a first oxide layer on the substrate by an in-situ steam generation process;

providing a nitride layer on the oxide layer; and

providing a second oxide layer on the nitride layer.

10. The method of claim 9, wherein the semiconductor devices is a SONOS transistor.

11. The method of claim 9, wherein the in-situ steam generation process flows hydrogen and oxygen over the substrate.

12. The method of claim 9, wherein the in-situ steam generation process is performed at a temperature ranging from about 750 to about 1050 degrees Celsius.

13. The method of claim 9, wherein the in-situ steam generation process is performed at a pressure ranging from about 100 millitorr to about 760 torr.

14. The method of claim 9, wherein the in-situ steam generation process is performed for a time sufficient to deposit an oxide thickness of about 10 to about 200 angstroms.

15. The method of claim 9, further including annealing the oxide layer in a nitric oxide atmosphere.

16. A method for making a gate dielectric structure for a thin film transistor or a SONOS device, comprising:

providing a substrate; and

providing an oxide layer of a gate dielectric structure on the substrate by an in-situ steam generation process.

17. The method of claim 16, wherein the in-situ steam generation process flows hydrogen and oxygen over the substrate.

18. The method of claim 16, wherein the in-situ steam generation process is performed at a pressure ranging from about 100 millitorr to about 760 torr and a temperature ranging from about 600 to about 1050 degrees Celsius.

19. The method of claim 16, wherein the in-situ steam generation process is performed for a time sufficient to deposit an oxide thickness ranging from about 10 to about 200 angstroms.

20. The method of claim 16, further including annealing the oxide layer in a nitric oxide atmosphere.

21. A method for making a gate dielectric structure for a thin film transistor or a SONOS device, comprising.

providing a substrate;

providing an oxide layer of a gate dielectric structure, the oxide layer having a thickness of about 10 to about 200 angstroms; and

annealing the oxide layer in a nitric oxide atmosphere.

22. A method for making a gate dielectric structure for a thin film transistor or a SONOS device, comprising.

providing a substrate;

providing an oxide layer of a gate dielectric structure on the substrate by an in-situ steam generation process performed at a temperature ranging from about 600 to about 1050 degrees

Celsius, a pressure ranging from about 100 millitorr to about 760 torr, and for a time sufficient to deposit an oxide thickness of about 10 to about 200 angstroms; and

Sub B7
~~annealing the oxide layer in a nitric oxide atmosphere.~~

23. A thin film transistor containing a gate dielectric structure made by the method comprising:

providing a substrate for a gate dielectric structure; and

providing an oxide layer of the gate dielectric structure on the substrate by an in-situ steam generation process.

24. A SONOS semiconductor device made by the method comprising:

providing a substrate;

providing a first oxide layer on the substrate by an in-situ steam generation process;

providing a nitride layer on the oxide layer; and

providing a second oxide layer on the nitride layer.

25. An integrated circuit containing a thin film transistor with a gate dielectric structure made by the method comprising:

providing a substrate for the gate dielectric structure; and

providing an oxide layer of the gate dielectric structure on the substrate by an in-situ steam generation process.

26. An integrated circuit containing a SONOS semiconductor device made by the method comprising:

providing a substrate;

providing a first oxide layer on the substrate by an in-situ steam generation process;

~~Substrate~~
~~cont'd~~ providing a nitride layer on the oxide layer; and

providing a second oxide layer on the nitride layer.

add B11

2002-04-29 09:22:42